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| 10/807,668      | 03/24/2004  | Vincent J. Zimmer    | INTEL/18683         | 4322             |

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EXAMINER

WEINMAN, SEAN M

ART UNIT PAPER NUMBER

2115

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/807,668

Applicant(s)

ZIMMER ET AL.

Examiner

Sean Weinman

Art Unit

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/07/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

*Claims 1-40* are presented for examination.

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### *Drawings*

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

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- Reference character 442 in Figure 4 is not mentioned in the description. It is believed that Applicant intended to refer to “Flash memory” as reference character 412 as mentioned in the description.

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Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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### *Claim Objections*

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**Claims 2-6, 8-10, 12-15, 17-21, 23-26, 28, 30-33, 35-36, and 38-40** objected to because of the following informalities:

**Claims 2-6** recite the limitation “A method as defined in claim 1” it is believed claims 2-6 should recite “The method as defined in claim 1”.

5        **Claims 8-10** recite the limitation “A method as defined in claim 7” it is believed claims 8-10 should recite “The method as defined in claim 7”.

**Claims 12-15** recite the limitation “A method as defined in claim 11” it is believed claims 12-15 should recite “The method as defined in claim 11”.

10        **Claims 17-21** recite the limitation “A apparatus as defined in claim 16” it is believed claims 17-21 should recite “The apparatus as defined in claim 16”.

**Claims 23-26** recite the limitation “An article of manufacture as defined in claim 22” it is believed claims 23-26 should recite “The article of manufacture as defined in claim 22”.

**Claim 28** recites the limitation “An apparatus as defined in claim 27” it is believed claim 28 should recite “The apparatus as defined in claim 27”.

15        **Claims 30-33** recite the limitation “An apparatus as defined in claim 29” it is believed claims 30-33 should recite “The apparatus as defined in claim 29”.

**Claims 35-36** recite the limitation “An article of manufacture as defined in claim 34” it is believed claims 35-36 should recite “The article of manufacture as defined in claim 34”.

20        **Claims 38-40** recite the limitation “An article of manufacture as defined in claim 37” it is believed claims 38-40 should recite “The article of manufacture as defined in claim 37”.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

5

***Claims 11-15 and 26*** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

***Claim 11*** recites the limitation "the remaining memory" in line 4 of the respective claim.

10 There is insufficient antecedent basis for this limitation in the claim.

***Claim 26*** recites the limitation "the memory map" in line 5 of the respective claim.

There is insufficient antecedent basis for this limitation in the claim.

Any claim not specifically addressed is being rejected as incorporating the deficiencies of a claim upon which it depends.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

20 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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***Claims 1-40*** are rejected under 35 U.S.C. 103(a) as being unpatentable over Merkin (US Patent Application Publication 2004/0158701) in view of Engelbrecht et al. (US Patent No. 6,601,153).

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*As per claim 1 and 22*, Merkin teaches the claimed invention comprising:

A method comprising:

initializing a subset of a memory (*Paragraphs [0039] and [0042]*);

loading an operating system (*Paragraph [0042]*);

5       initializing subsets of a remaining memory (*Paragraph [0046] and claim 2*); and

creating a notification for the operating system to dynamically incorporate the subsets of the remaining memory (*Paragraphs [0052] and [0053]* *It would have been obvious to one of ordinary skill in the art that a notification would have been created for the operating system to know to incorporate the remaining memory subsets after they have been initialized*).

10       Merkin however does not teach that the subsets of remaining memory are initialized during operating system idle periods. Specifically, Merkin teaches initializing a first subset of memory and loading an operating system. Additionally, Merkin teaches the operating system initializing the remaining subset of memory after the operating system is booted up. Merkin does not teach that the remaining subsets of memory are initialized during idle periods of the  
15       operating system.

Engelbrecht et al. teach a method of initializing memory during idle periods or processing stalls. Engelbrecht et al. initializing subsets of a remaining memory during the operating system idle periods (*Col 1 lines 7-13, Col. 5 lines 62-67, and Col. 6 lines 1-12*). In summary, Engelbrecht et al. teach a method of initializing remaining subsets of memory during  
20       idle periods.

It would have been obvious to combine the teachings of Merkin and Engelbrecht et al. because they both teach method of initializing unused remaining subset of memory during

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computing to increase the speed of the system. Englebrecht et al. teaches the deficiency of Merkin by teaching that memory subsets are initialized during operating system idle periods.

*As per claim 7 and 34*, Merkin teaches the claimed invention comprising:

initializing a subset of a memory(*Paragraphs [0039] and [0042]*);

5       creating a memory descriptor for subsets of a remaining memory (*Paragraphs [0051] and [0052]* *It would have been obvious to one of ordinary skill in the art to create a memory descriptor for the subsets of remaining memory for the system to identify the memory groups in the system*); and

loading an operating system (*Paragraphs [0039] and [0042]*);

10       *As per claim 11 and 37*, Merkin and Engelbrecht et al. teach the claimed invention comprising:

determining a memory map (*Merkin: Paragraphs [0052] and [0053]*);

analyzing a memory descriptor to determine a presence of the subsets of the remaining memory to be initialized (*Merkin: Paragraphs [0051] and [0052]*);

15       initializing subsets of the remaining memory during operating system idle periods (*Engelbrecht et al.: Col 1 lines 7-13, Col. 5 lines 62-67, and Col. 6 lines 1-12*).; and

creating a notification for the operating system to dynamically incorporate the subsets of the remaining memory (*Merkin:Paragraphs [0052] and [0053]*).

*As per claim 16 and 29*, Merkin teaches the claimed invention comprising:

20       a memory initialization module configured to initialize a subset of a memory (*Paragraphs [0039] and [0042]* *It would have been obvious to one of ordinary skill in the art that a memory initialization module is present to initialize a subset of memory*);

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a system loader configured to load an operating system (*Paragraph [0042] It would have been obvious to one of ordinary skill in the art that a system load is present to load the operating system*) and

5 a hot adder module configured to create a notification for the operating system to dynamically incorporate subsets of a remaining memory (*Paragraphs [0052] and [0053] It would have been obvious to one of ordinary skill in the art that a adder module is present to create a notification for the operating system in initialize the remaining memory subsets*).

*As per claim 27*, Merkin teaches the claimed invention comprising:

10 a memory initialization module configured to initialize a subset of a memory (*Paragraphs [0039] and [0042] It would have been obvious to one of ordinary skill in the art that a memory initialization module is present to initialize a subset of memory*);

a subset generator configured to create the subsets of the remaining memory (*Paragraph [0039] It would have been obvious to one of ordinary skill in the art that a subset generator is present to create the subsets of remaining memory*);

15 a memory descriptor module configured to generate a data structure to indicate a presence of the subsets of the remaining memory (*Paragraphs [0051] and [0052] It would have been obvious to one of ordinary skill to have a memory descriptor module present to make the memory descriptor comprise at least a data structure and a entry in a table for the system to identify the memory subset.*); and

20 a system loader configured to load an operating system (*Paragraph [0042] It would have been obvious to one of ordinary skill in the art that a system load is present to load the operating system*).



***As per claim 2 and 8***, Merkin teaches the claimed invention comprising:

wherein the memory is error correction control memory (*It would have been obvious to one of ordinary skill in the art to have the memory of system be error correction control memory*)

5       ***As per claim 3, 9, 12, 17, 23, 28, 30, and 35*** Merkin teaches the claimed invention comprising:

wherein initializing the subset of the memory comprises setting the subset of the memory to a default state (*It would have been obvious to one of ordinary skill in the art to set the subsets of memory to a default state during the initialization.*)

10       ***As per claim 4, 13, 19, 31 and 39*** Merkin teaches the claimed invention comprising:

wherein the notification for the operating system to dynamically incorporate the subsets of the remaining memory comprises a hot plug event (*Paragraphs [0052] and [0053] and claim 4*).

***As per claim 5, 15, 20, 25, 32, and 40*** Merkin teaches the claimed invention comprising:

15       wherein the subsets of the remaining memory are dynamically incorporated by updating a memory map (*Paragraphs [0052] and [0053] It would have been obvious to one of ordinary skill in the art to update the memory map after the remaining memory was incorporated in the operating system.*)

***As per claim 6 and 26***, Merkin teaches the claimed invention comprising:

20       creating a memory descriptor for the subsets of the remaining memory before loading the operating system (*Paragraphs [0051] and [0052] It would have been obvious to one of ordinary*

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*skill in the art to create a memory descriptor for the subsets of remaining memory for the system to identify the memory groups in the system)*

determining the memory map (*Paragraphs [0052] and [0053]*); and

analyzing the memory descriptor to determine a presence of the subsets of the remaining

5 memory to be initialized (*Paragraphs [0051] and [0052]*).

*As per claim 10*, Merkin teaches the claimed invention comprising:

wherein the subset of the memory is of a size at least as large as a minimum requirement associated with the operating system (*Paragraph [0036]*).

*As per claim 14 and 36*, Merkin teaches the claimed invention comprising:

10 wherein the memory descriptor comprises at least one of a data structure and an entry in a table (*Paragraphs [0051] and [0052]* *It would have been obvious to one of ordinary skill to make the memory descriptor comprise at least a data structure and a entry in a table for the system to identify the memory subset.*)

*As per claim 18, 24, 33, and 38* Engelbrecht et al. teach the claimed invention

15 comprising:

wherein the memory initialization module is configured to set the subsets of the remaining memory to the default state during operating system idle periods (*Col 1 lines 7-13, Col. 5 lines 62-67, and Col. 6 lines 1-12*).

*As per claim 21*, Merkin teaches the claimed invention comprising:

20 a subset generator configured to create the subsets of the remaining memory (*Paragraph [0039]* *It would have been obvious to one of ordinary skill in the art that a subset generator is present to create the subsets of remaining memory*); and

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a memory descriptor module configured to generate a data structure to indicate a presence of the subsets of the remaining memory (*Paragraphs [0051] and [0052] It would have been obvious to one of ordinary skill to have a memory descriptor module present to make the memory descriptor comprise at least a data structure and a entry in a table for the system to*

5 *identify the memory subset.)*

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Weinman whose phone number is (571) 272-2744. The

10 examiner can normally be reached on Monday-Friday from 8:00-4:30.

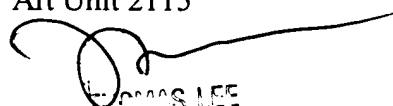
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (571) 272-3667. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent

15 Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

20

Sean Weinman  
Examiner  
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